REMARKS

I. Introductory Remarks

Applicants respectfully request reconsideration of this application in view of the foregoing amendments and the following remarks.

Upon entry of the amendments, only claim 5 will be pending in the application. Claims 1-4 and 6-15 are being canceled. No new claims are being added. Claim 5 is being amended. Exemplary support for the amendments to claim 5 exists at page 94, lines 7-19 of the specification. Thus, the amendments do not introduce new matter into the application.

II. Correction of the Specification

The Office objected to the specification for stating on page 25 that "key amino acids of the catalytic domain are highlighted in bold italics" in Figure 1, when the figure actually shows no highlighted amino acids.

The foregoing amendment to the specification corrects this error by removing the reference to highlighted amino acids. Thus, the objection is now moot.

III. Correction of the Apparent Typographical Error in Claim 5

The Office objected to claim 5 for an apparent typographical error: the claim recited a "purified purified MDK1 polypeptide."

Applicants have removed the redundancy from claim 5, thereby rendering the objection moot.

IV. Claim 5 is Patentable over the Claims of U.S. Patent No. 6,361,984

Claim 5 was rejected under the doctrine of obviousness-type double patenting as allegedly being unpatentable over claims 1-5 of U.S. Patent 6,361,984 ("the '984 patent). In particular, the Office asserted that claim 5 is generic to the species claims of the '984 patent, which claims three MDK1 polypeptide species.

The rejection does not apply to amended claim 5. Amended claim 5 relates to MDK1 splice variants that are distinct from MDK1 polypeptides claimed in the '984 patent. The MDK1 splice variants are separate species that are neither generic to or suggested by the

MDK1 species claimed in the '984 patent. Applicants therefore request withdrawal of the double patenting rejection.

V. The Specification Enables the Full Scope of Claim 5

Claim 5 was rejected under 35 U.S.C. § 112, first paragraph, because the specification allegedly does not enable the use of all MDK1 polypeptides, derivatives, fragments, variants and chimera. In particular, the Office stated that claim 5 reads on polypeptides comprising as few as two consecutive amino acids from SEQ ID NO:2, most of which would not be expected to retain an MDK1 function.

The rejection does not apply to amended claim 5. Claim 5 relates to MDK1 splice variants comprising the amino acid sequence of MDK1.T1 (SEQ ID NO:3) or MDK1.T2 (SEQ ID NO:5). Such variants contain complete MDK1 extracellular and transmembrane domains, and are expressed *in vivo*. (Specification, Examples 1 and 2). Owing to the presence of intact MDK1 extracellular and transmembrane domains, the claimed splice variants retain functions of MDK1 that accommodate many utilities described in the specification. These retained functions include (a) the ability to selectively bind MDK1 ligands and (b) reactivity with antibodies having specificity for MDK1 and/or an MDK1-ligand complex.

Thus, the enablement rejection is inapplicable to claim 5, and Applicants respectfully request its withdrawal.

VI. Claim 5 Complies with the Written Description Requirement

Claim 5 was rejected under 35 U.S.C. § 112, first paragraph, because the specification allegedly does not describe all of the MDK1 polypeptides, derivatives, fragments, variants and chimera. Again, the Office stated that claim 5 reads on polypeptides comprising as few as two consecutive amino acids from SEQ ID NO:2, and therefore encompasses polypeptides having a high degree of structural and functional variability.

The rejection does not apply to amended claim 5. In accord with *Regents of the University of California v. Eli Lilly & Co.*, 119 F.3d 1559, 1569, 43 USPQ2d 1398, 1406 (Fed. Cir. 1997), claim 5 recites structural features that define the claimed genus and that give

members of the genus their common attributes or characteristics. Specifically, claim 5 defines a genus of MDK1 splice variants that comprise the amino acid sequence of MDK1.T1 (SEQ ID NO:3) or MDK1.T2 (SEQ ID NO:5). These sequences contain complete MDK1 extracellular and transmembrane domains. (Specification, Examples 1 and 2). Thus, the claimed splice variants have common functions of MDK1, including (a) the ability to selectively bind MDK1 ligands and (b) a reactivity with antibodies having specificity for MDK1 and/or an MDK1-ligand complex. Due to these shared structural and functional features, the genus of MDK1 splice variants embraced by claim 5 is not overly diverse.

Thus, the written description rejection is inapplicable, and Applicants respectfully request its withdrawal.

VII. Claim 5 is Definite

Claim 5 was rejected under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite. More specifically, the Office stated that the invention should be defined in terms beyond "MDK1 polypeptide."

The rejection is now moot because claim 5 defines the MDK1 polypeptides in terms of amino acid sequence. The claimed MDK1 polypeptides "compris[e] the amino acid sequence of MDK1.T1 (SEQ ID NO:3) or MDK1.T2 (SEQ ID NO:5)." Thus, the rejection is inapplicable, and Applicants request its withdrawal.

VIII. Claim 5 is Patentable over the Asserted Art

Claim 5 was rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Sajjadi et al., New Biologist, 3: 769-778 (1991) ("Sajjadi"). However, the reference does not anticipate claim 5.

As described by the Examiner, Sajjadi discloses an amino acid sequence that has 63.5% identity to MDK1. The Sajjadi sequence does not comprise the "amino acid sequence of MDK1.T1 (SEQ ID NO:3) or MDK1.T2 (SEQ ID NO:5)," as recited in claim 5. Accordingly, it does not anticipate claim 5. For at least this reason, Applicants request withdrawal of the anticipation rejection.

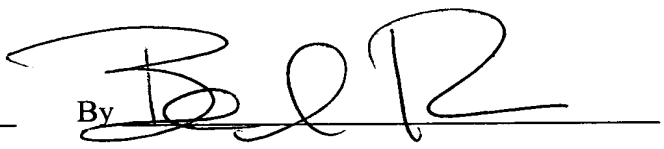
IX. Concluding Remarks

The present application is now in condition for allowance. Therefore, Applicants respectfully request favorable reconsideration of the application.

If the Examiner believes that an interview would advance prosecution of the application, she is invited to contact the undersigned attorney by telephone.

The Commissioner is hereby authorized to charge any additional fees that may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by a check being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicant hereby petitions for such extension under 37 C.F.R. § 1.136 and authorizes payment of any extension fees to Deposit Account No. 19-0741.

Respectfully submitted,

Date 9 March 2005 By 

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